

CLASS 725, INTERACTIVE VIDEO DISTRIBUTION SYSTEMS

SECTION I - CLASS DEFINITION

GENERAL STATEMENT OF THE CLASS SUBJECT MATTER

This class contains interactive video distribution processes, systems, and elements thereof, which are characterized by point-to-multipoint system configurations, and which are used for the unidirectional distribution or delivery of motion video data resulting from interactions between systems operators (access or service providers) or users (subscribers) and systems elements. These systems include dedicated communications systems, such as television distribution systems, which primarily distribute or deliver motion video data in the manner indicated, but which may, in addition, provide a framework for further, diverse data communications or services in either unidirectional or bidirectional form. Typically, system operators interface with transmitter-side elements or users interface with receiver-side elements in order to facilitate, through interaction with such elements, the dynamic control of data processing or data flow at various points in the systems. This interaction is typically occasional or intermittent in nature.

SCOPE OF THE CLASS

- (1) Note. This class includes subject matter directed to the transmission of video data. Systems which are concerned with the transmission of nonvideo data, such as systems which provide audio data or data in the generic sense, are classified elsewhere. See the Search Class notes below.
- (2) Note. This class includes subject matter directed to the transmission of motion video data. Systems which are solely concerned with the delivery of still video data or picture data, such as facsimile systems, are classified elsewhere. See the Search Class notes below.
- (3) Note. This class is directed to the unidirectional transmission of motion video data. Systems concerned with the bidirectional transmission of motion video data, such as video conference systems, are classified elsewhere. See the Search Class notes below.

- (4) Note. This class includes systems which are characterized by point-to-multipoint network architectures with point-to-multipoint connectivity. Systems which are solely concerned with the delivery of motion video data through discrete point-to-point connections, such as interconnected computer networks, are classified elsewhere. See the Search Class notes below.
- (5) Note. This class is directed to systems which enable occasional or intermittent user interaction. Systems which fundamentally require frequent or continuous user interaction are classified elsewhere. See the Search Class notes below.
- (6) Note. This class is limited to interactive video distribution processes and systems. Claimed subject matter which is directed to particular receiver details which do not facilitate interactive video distribution, such as television receiver signal processing circuitry, are classified elsewhere. See the Search Class notes below.

SECTION II - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

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| 194, | Check-Actuated Control Mechanisms, appropriate subclasses for coin-controlled device of general utility. |
| 235, | Registers, various subclasses for voting machines and registering ballot boxes, and banking and credit card systems. |
| 329, | Demodulators, various subclasses for demodulators, per se. |
| 330, | Amplifiers, various subclasses for amplifiers, per se. |
| 331, | Oscillators, various subclasses for oscillators, per se. |
| 332, | Modulators, various subclasses for modulators, per se. |
| 333, | Wave Transmission Lines and Networks, various subclasses for plural channel systems and coupling networks. |
| 334, | Tuners, various subclasses for tuners, per se. |
| 340, | Communications: Electrical, for telemetering, condition responsive indicating systems, selec- |

- tive systems, and repeaters in unspecified type communication lines or channels.
- 343, Communications: Radio Wave Antennas, appropriate subclasses for RF antennas.
- 345, Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display Systems, appropriate subclasses for user interface features and functions which are not particularly directed to interactive video distribution systems.
- 348, Television, appropriate subclasses for television cameras, special applications, receiver monitoring, testing, and measuring systems, bandwidth reduction systems, signal formatters, image signal processing circuitry, and displays.
- 358, Facsimile and Static Presentation Processing, appropriate subclasses for transmitting, processing, or reproducing permanent pictures.
- 360, Dynamic Magnetic Information Storage or Retrieval, appropriate subclasses for magnetic recording or reproducing of information.
- 369, Dynamic Information Storage or Retrieval, appropriate subclasses for recording or reproducing of information.
- 370, Multiplex Communications, appropriate subclasses for multiplex communications systems.
- 375, Pulse or Digital Communications, for communications using pulse or digital signals.
- 379, Telephonic Communications, for communications by telephone.
- 380, Cryptography, particularly subclasses 200 through 242 for particular detail of video cryptography technique.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, appropriate subclasses for dynamic recording, or reproducing, of black and white television using a nonmagnetic medium, dynamic recording or reproducing of color television, and photographing displayed images.
- 434, Education and Demonstration, particularly subclass 307 R and 307 A for karaoke systems.
- 455, Telecommunications, for generic modulated carrier wave communication systems, particularly subclass 2.01 for audience survey or program distribution use accounting, and subclasses 3.01-3.06 for wireless modulated carrier wave distribution system.
- 463, Amusement Devices: Games, for appropriate subclasses for computer or video games.

- 705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, appropriate subclasses for business methods and particularly subclass 26 and 27 for electronic shopping.
- 707, Data Processing: Database and File Management, Data Structures, or Document Processing, for database and file management features.
- 709, Electrical Computers and Digital Processing Systems: Multiple Computer or Process Coordinating, particularly subclasses 217 through 219 for systems which provide remote data access using interconnected networks or by providing access to remote server.

SECTION III - GLOSSARY

ACCESS

Any means of establishing logical or physical communication with a computer or communications system. Also, any means of obtaining the use of such a system or any actions that result in a flow of information involving such a system.

AMPLIFIER

A unidirectional device that is capable of delivering an enlargement of the waveform of the electric current, voltage, or power supplied to it.

ANTENNA

That part of a transmitting or receiving system that is designed to radiate or to receive electromagnetic waves, such as radio waves.

AUDIO

Pertaining to frequencies corresponding to a normally audible sound wave. Note: These frequencies range roughly from 15 Hz to 20,000 Hz.

BANDWIDTH

The range of frequencies within which performance, with respect to some characteristic, falls within specific limits. For example, the specified frequency range over which the amplitude response does not vary more than a defined amount. Bandwidth is commonly defined at the points where the response is 3 dB less than the reference value (0.707 root-mean-square voltage ratio). In broadband networks, the frequency range that a component,

circuit, or system passes or uses. Also, the range of frequencies, expressed in hertz, that can pass over a given channel. For example, a television channel typically occupies a bandwidth of 6,000,000 Hz (6 MHz), and cable systems typically occupy 5-300 MHz or higher of the electromagnetic spectrum.

BLANKING INTERVAL

In television systems, the range of a composite picture signal containing either vertical or horizontal synchronizing information. This range is separate from the range containing picture information.

BLOCK

To restrict the passage, progress, or exchange of data.

BUFFER

A device in which data are stored temporarily, in the course of transmission from one point to another and used to compensate for a difference in the flow of data or time of occurrence of events when transmitting data from one device to another. Also, the act of such temporary storage of data.

CABLE

A transmission line or group of transmission lines mechanically assembled into a complex flexible form. Note: The conductors are insulated and are closely spaced and usually have a common outer cover which may be an electric portion of the cable. In communication cables, an insulated conductor or combination of electric conductors that are insulated from each other. A shield is usually provided. Further, an assembly of one or more conductors within an enveloping protective sheath, constructed to allow use of the conductors separately or in groups, such as a coaxial cable or optical cable.

CATEGORY

Any of several fundamental and distinct classes to which entities or concepts belong. Also, a division within a system of classification.

CELLULAR

Of, relating to, or consisting of cells. In a radio frequency system, that which characterizes a system in which a geographical area is divided into small sections, each served by a transmitter of limited range so that any

available radio frequency channel can be used in different parts of the area simultaneously.

CHANNEL

A single path for transmitting electric signals, usually in distinction from other parallel paths. A band of frequencies. Note: The word "path" is to be interpreted in a broad sense to include separation by frequency division or time division. The term "channel" may signify either a one-way path, providing transmission in one direction only, or a two-way path, providing transmission in two directions.

CLIENT

The requesting device in a communications network. In a client-server network, for example, a user interface could reside in the client workstation while the storage and retrieval functions could reside in the server database.

CLIP

A portion of motion video material consisting of plural fields or frames of video data.

COAX (COAXIAL CABLE)

A two-conductor (center conductor, shield system), concentric, constant impedance transmission line used as the trunk medium in the baseband system. In broadband networks, a cable with two conductors where one completely surrounds the other. Coax cables are unbalanced transmission lines that have an outer conductor that shields the center conductor from electrostatic interference. The two conductors are spaced by an insulating dielectric that, depending on the mechanical and material configuration, affects the speed, attenuation, and impedance of transmission.

COMMERCIAL

An advertisement provided within broadcast or point-to-point networks.

CONTROL

To regulate the passage, progress, or exchange of data.

DATA

Any representation of a digital or analog quantity to which meaning has been assigned. A representation of

facts, concepts, or instructions, in a manner suitable for communication, interpretation, or processing by humans or by automatic means.

DELIVERY

The act of sending something, such as motion video data, to an intended destination.

DEMOGRAPHICS

The statistical characteristics of human populations, such as age or income, used especially to identify markets.

DIPLEX FILTER

A filter having a low pass and a high pass filter that divide the frequency spectrum into two separate frequency bands that do not overlap. The diplex filter allows the placement of duplex signals onto a cable by the use of frequency division multiplexing.

DISTRIBUTION

A general term used, by reason of specific physical or electrical characteristics, to denote application or restriction of the modified term, or both, to that part of an electrical system used for conveying energy to the point of utilization from a source or from one or more main receiving stations.

ELECTRONIC PROGRAM GUIDE (EPG)

A display interface which allows user's interaction with a program grid having intersecting row(s) and column(s) of video program information.

ENCRYPTION

The process of encoding data to prevent unauthorized access, especially during transmission. Encryption is usually based on a key that is essential for decoding.

FIBER (OPTICAL CABLE)

Fiber: any filament or fiber, made of dielectric materials, that guides light, whether or not it is used to transmit signals. Optical cable: a fiber, multiple fibers, or fiber bundle in a structure fabricated to meet optical, mechanical, and environmental specifications which is used for the transmission of signals.

GENRE

A category of video composition characterized by a particular style, form, or content.

GEOGRAPHIC

Belonging to or characteristic of a particular region.

HEADEND

In broadband networks, the central location that has access to signals traveling in both inbound and outbound directions. The logical root of the broadband coaxial cable system.

INTERMEDIATE FREQUENCY (IF)

A frequency to which a signal wave is shifted locally as an intermediate step in transmission or reception.

LOCAL OSCILLATOR

An oscillator in a superheterodyne circuit whose output is mixed with the received signal to produce a sum or difference frequency equal to the intermediate frequency of the receiver.

MESSAGE

In telecommunications, a combination of characters and symbols transferred from one point to another.

MICROWAVE

Pertaining to the portion of the radio frequency spectrum above 1 GHz.

MODEM

A contraction of MODulator-DEModulator, an equipment that connects data terminal equipment to a communication line. In broadband networks, a modulator-demodulator device. The modulator encodes digital information onto an analog carrier signal by varying the amplitude, frequency, or phase of that carrier. The demodulator extracts digital information from a similarly modified carrier. A modem transforms digital signals into a form suitable for transmission over an analog medium.

MONITORING

In communications, the process of observing or tracking system activities.

NEAR VIDEO-ON-DEMAND (NVOD)

A programming event that is provided upon request, in which the event is broadcast on plural channels in time-staggered intervals. These events are distributed to all subscribers, but enabled on an individual basis through an interactive process. Due to the mode of distribution, requests can be processed “near on-demand” , with a delay which is inversely proportional to the broadcast interval.

NETWORK

A series of points interconnected by communication channels. Also, any set of devices or subsystems connected by links joining (directly or indirectly) a set of terminal nodes. Also, an arrangement of components or nodes and interconnecting branches.

NOISE

In data transmissions, generally, an undesired disturbance within the useful frequency band. Note : undesired disturbances within the useful frequency band produced by other services may be called interference. In broadband networks, an unwanted signal in a communications system. White noise (or random noise) is random energy (e.g., shot noise and thermal noise) that has a uniform distribution of energy across the band-pass. The analogy for white noise is white light. Johnson noise (thermal) is the noise generated by electron movement (current through a resistor) above absolute zero. The noise level is proportional to temperature. Shot noise is the type of unrandom noise generated when current flows across an abrupt junction. Shot noise is characteristic of semiconductor devices.

PAY-PER-VIEW (PPV)

A programming event that is provided upon request, in which the event is broadcast on a particular channel at a particular time. These events are distributed to all subscribers, but enabled on an individual basis through an interactive process.

PERSONAL COMPUTER (PC)

A system, containing a host and a limited number of peripherals designed to be used in the home or in small offices, that enables individuals to perform a variety of computing or word-processing functions or both, and that typically is of a size permitting it and its peripherals to be located on a table surface. Note: Other definitions

given in product standards or applicable regulations may take precedence. Alternatively, a single-user micro-computer designed for personally controllable applications.

PERSONAL IDENTIFICATION NUMBER (PIN)

A unique code number assigned, as with automatic teller machine cards, to the authorized user.

POLARIZATION

That property of a radiated electromagnetic wave describing the time-varying direction and amplitude of the electric field vector; specifically, the figure traced as a function of time by the extremity of the vector at a fixed location in space, as observed along the direction of propagation. Note: In general, the figure is elliptical and it is traced in a clockwise or counterclockwise sense. The commonly referenced circular and linear polarizations are obtained when the ellipse becomes a circle or a straight line, respectively. Clockwise sense rotation of the electric vector is designated right-hand polarization and counterclockwise sense rotation is designated left-hand polarization.

POLL

In data transmission, a flexible, systematic method, centrally controlled for permitting stations on a multipoint circuit to transmit without contending for the line. Also, a method for presenting questions to users in order to obtain information for analysis.

PROFILE

For an individual, a concise biographical sketch, a measure of the extent to which one exhibits traits or abilities, or a measure of one's likes and dislikes (perhaps based on historical data).

PROGRAM

A sequence of signals transmitted for entertainment or information.

RECEIVER

The apparatus employed to accept data from a communications system.

REPEATER

A combination of apparatus for receiving either one-

way or two-way communication signals and delivering corresponding signals which are either amplified, reshaped, or both. A repeater for one-way communication signals is termed a “one-way repeater” and one for two-way communication signals a “two-way repeater” .

SATELLITE

A manufactured object or vehicle intended to orbit the earth and to engage in the reception and transmission of communication signals.

SCRAMBLE

To disarrange the elements of a transmission in order to make it unintelligible to interception.

SERVER

In a network, a device or computer system that is dedicated to providing specific facilities to other devices attached to the network. Contrast: Client.

SET-TOP BOX (STB)

A device that converts a cable television signal to an input signal to the television set. In some cases, set-top boxes can be used to access the World Wide Web.

SPLITTER

Splitters divide or combine power. The power division causes an insertion loss and a small amount of internal loss that contributes to the attenuation of the signals passing through the device. The splitter has a common port and split port(s).

STILL (VIDEO)

A portion of motion video material consisting of a single field or frame of video data.

SUBSCRIBER

One who uses a communication or signaling service. Equipment is typically installed at a subscriber's premises to enable the reception, and perhaps the transmission, of communication signals.

SWITCH

To establish communication channels among two or more switch interfaces at customers' demand.

SYNC PULSE

In television, signals employed for synchronizing scanning that occur at rates related to the line and field frequencies. In a television receiver, sync pulses are used to synchronize the deflection generators.

TAP

In broadband networks, a passive device in the feeder system that provides a connection between the drop cable and the feeder. The tap is the principle means of access to the cable system by the user. It removes a portion of the signal power from the distribution line and delivers it to the drop line. The amount of power tapped off the main line depends on the input power to the tap and the attenuation value of the tap. Only the information signal (and not 60 Hz power) goes to the outlet ports.

TELETEXT

A form of videotex that allows users to receive textual or pictorial material via broadcast signals interpreted by a spatial decoder attached to a television set. Contrast: Viewdata.

THEME

A subject or topic of artistic representation.

TRANSMISSION

The electrical transfer of a signal, message, or other form of intelligence from one location to another.

TRANSMITTER

A device or circuit that generates high-frequency electric energy, controlled or modulated, which can be radiated by an antenna.

UNIFORM RESOURCE LOCATOR (URL)

An address for a resource on the Internet. URLs are used by Web browsers to locate Internet resources. A URL specifies the protocol to be used in accessing the resource (such as http: for a World Wide Web page or ftp: for an FTP site), the name of the server on which the resource resides (such as //www.uspto.gov), and, optionally, the path to a resource (such as an HTML document or a file on that server).

VERTICAL BLANKING INTERVAL (VBI)

The time required for the electron beam in a raster-scan display to perform a vertical retrace.

VIDEO-ON-DEMAND (VOD)

A programming event that is provided upon request, in which the event is delivered "on-demand" (with negligible delay). These events are delivered to individual subscribers through an interactive process.

VIDEO SIGNAL

The signal sent from a source to a display. The signal can include horizontal and vertical synchronization signals, as well as image information.

VIDEOCASSETTE RECORDER (VCR)

A videotape recorder that uses videocassettes.

WIRELESS

Of, pertaining to, or characteristic of communications that take place without the use of interconnecting wires or cables, such as by radio, microwave, or infrared.

SUBCLASSES**1 BILLING IN VIDEO DISTRIBUTION SYSTEM:**

This subclass is indented under the class definition. Subject matter comprising means or steps for the processing of information regarding a charge for or a payment of a distributed or delivered video program or other services.

- (1) Note. Examples of the other services include payment for telephone or for external data network service through a video distribution system.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 106, for telephony service via television distribution network.
109 through 113, for video distribution system having link to external data network.

SEE OR SEARCH CLASS:

- 194, Check-Actuated Control Mechanisms, appropriate subclasses for coin-controlled device of general utility.
235, Registers, subclass 379 and 380-382.5 for banking systems and credit card systems controlled by data bearing records.
340, Communications: Electrical, subclass 825.33 for credit authorization control.
348, Television, for appropriate subclasses for television receiver circuitry and monitoring, testing, and measuring systems.
379, Telephonic Communications, subclasses 143 through 155 for telephone paystation check operated control.
705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, for automated electrical financial or business practices, and cost/price determination.

2**Data stored locally (e.g., at set-top box):**

This subclass is indented under subclass 1.

Subject matter comprising means or steps for recording or storing use-related information at a receiver-side for subsequent billing purposes.

- (1) Note. This subclass includes means or steps for electronically retrieving locally stored data for further processing at a central distribution point, such as a head-end.

3**On nonelectronic medium (e.g., paper tape or meter):**

This subclass is indented under subclass 2.

Subject matter comprising means or steps for mechanically recording use-related information for subsequent billing purposes.

- (1) Note. This subclass includes systems which require the inspection of, or interaction with, mechanical devices used for the recording of use-related data for subsequent billing purposes.

4 Data stored at intermediate point (i.e., at location between headend or server and receiver):

This subclass is indented under subclass 1.
Subject matter comprising means or steps for recording or storing use-related information at an intermediate system location for subsequent billing purposes.

5 Payment method or scheme:

This subclass is indented under subclass 1.
Subject matter comprising means or steps for detailing payment for a distributed or delivered video program or a service.

6 Card reader (e.g., for credit, debit, or smart card):

This subclass is indented under subclass 5.
Subject matter comprising means or steps for payment using a card reader device capable of performing transaction authorizations for the purchase of video programming or other services.

7 Coin operated:

This subclass is indented under subclass 5.
Subject matter comprising means or steps for payment using a device capable of accepting coins.

8 Having variable cost or free preview period:

This subclass is indented under subclass 1.
Subject matter comprising means or steps for facilitating nonstandard or variable pricing based on the nature of a distributed or delivered video program or service.

- (1) Note. This subclass includes systems which provide a video program at a cost which is inversely proportional to an amount of inserted messages or commercials.

9 USE SURVEYING OR MONITORING (E.G., PROGRAM OR CHANNEL WATCHED):

This subclass is indented under the class definition. Subject matter comprising means or steps for observing or tracking the activity of a user or a receiver function.

- (1) Note. This subclass includes metering, recording, or indicating the activity of a

user or the activity of a receiver with respect to the activity of a user.

- (2) Note. This subclass includes subject matter directed to the surveying or monitoring of the number of persons using a particular receiver, as well as the number of receivers using a video program or service, the length of time a video program or service is being used, which of several programs or services is being used, or which programs or services have been provided.

SEE OR SEARCH CLASS:

- 340, Communications: Electrical, subclasses 825.06 through 825.18 for monitoring or supervisory features in selective signaling systems and subclasses 870.01-870.44 for continuously variable indicating systems.
348, Television, for appropriate subclasses for television receiver circuitry and monitoring, testing, and measuring systems.
379, Telephonic Communications, subclasses 111 through 141 for usage measurement in a telephony system.
380, Cryptography, subclasses 200 through 242 for specific detail of video cryptography.
455, Telecommunications, subclass 2.01 for modulated carrier wave systems with monitoring or survey means.

10 Monitoring physical reaction or presence of viewer:

This subclass is indented under subclass 9.
Subject matter comprising means or steps for sensing the presence or movement of a user.

- (1) Note. For example, a device detects the presence or absence of a user in a room or determines whether or not the user's eyes are watching a television program, etc.

11 With entry of user identification:

This subclass is indented under subclass 10.
Subject matter comprising means or steps for monitoring a user's presence by sensing the entry of an identification code.

- (1) Note. This subclass includes devices which accept the entry of a personal identification number.
- 12 By passive determination and measurement (e.g., by detecting motion or ambient temperature, or by use of video camera):**
This subclass is indented under subclass 10.
Subject matter comprising means or steps for sensing a user by his or her effect on the environment near a receiver.
- (1) Note. This subclass includes devices which sense a user's effect upon motion detection equipment, room temperature, and light (as registered by a video camera).
- 13 Manual entry (e.g., using keypad or by written response):**
This subclass is indented under subclass 9.
Subject matter comprising means or steps for sensing, tracking, metering, or recording user activity as a result of manual action.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
11, for manual entries of user identification data in systems concerned with monitoring the physical reaction or presence of a viewer.
- 14 By passively monitoring receiver operation:**
This subclass is indented under subclass 9.
Subject matter comprising means or steps for sensing, tracking, metering, or recording receiver activity.
- 15 By detecting local oscillator or IF signal:**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for performing a surveying or monitoring function by detecting receiver local oscillator operation or shifts in received signal waves as a result of reception.
- 16 By polling:**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for performing a centrally controlled surveying or monitoring function by systematically permitting each receiver in a multipoint distribution system to transmit use-related data without contending with other receiver transmissions.
- 17 By monitoring sync or blanking pulse:**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for performing a surveying or monitoring function by detecting timing information peculiar to a particular video signal source.
- (1) Note. Different television stations have different relative phases for synchronizing pulses which enable remote detection of electromagnetic radiation from the receiver indicative of the station being received.
- 18 By use of audio signal:**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for performing a surveying or monitoring function by detecting the presence of an audio signal associated with a distributed or delivered video program.
- 19 By use of pattern recognition or signature:**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for performing a surveying or monitoring function by detecting a particular sequence or pattern of data.
- 20 By data encoded in video signal (e.g., VBI data):**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for performing a surveying or monitoring function by detecting data encoded within a video signal format.
- (1) Note. This subclass includes systems which detect data encoded in the vertical or horizontal blanking intervals or in any other portions which are capable of transferring or transporting such data.
- 21 Combined with detecting VCR operation:**
This subclass is indented under subclass 14.
Subject matter comprising means or steps for recording images and sound associated with a surveying or monitoring function on a cartridge mounted magnetic tape.

22 **COMMERCIAL OR PROGRAM AIRING VERIFICATION SYSTEM:**

This subclass is indented under the class definition. Subject matter comprising means or steps for monitoring the broadcast of video programming to confirm transmission or reception.

- (1) Note. Usually, the advertisement or program, or segment thereof, is verified by a comparison to a stored sample which is made following a detected trigger (located, for example, in the vertical blanking interval).

SEE OR SEARCH CLASS:

- 348, Television, for appropriate subclasses for television receiver circuitry and monitoring, testing, and measuring systems.

23 **SYSTEM FOR AWARDING COUPON, TOKEN, OR CREDIT:**

This subclass is indented under the class definition. Subject matter comprising means or steps for conferring tickets or form authorizing a purchase or for conferring a representation of an amount or sum of a video program or other service which is placed at user's disposal.

- (1) Note. Coupons are usually physically produced for future redemption. Tokens and credits are typically electronic representations of quantities of programs or services.

SEE OR SEARCH CLASS:

- 348, Television, for appropriate subclasses for television receiver circuitry and monitoring, testing, and measuring systems.
- 705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, subclass 14 for business methods related to the distribution or redemption of coupons.

24 **INTERACTIVE OPINION POLLING:**

This subclass is indented under the class definition. Subject matter comprising means or steps for presenting questions to users in order to obtain information for analysis.

- (1) Note. This subclass includes systems which electronically gather information as a precursor to or following the presentation of a particular video program or service, as well as in the traditional sense, to record opinions on political issues and the like.

SEE OR SEARCH CLASS:

- 235, Registers, subclasses 51 through 56 for voting machines, subclass 57 for registering ballot boxes, and subclass 386 for voting machines controlled by data bearing registers.
- 348, Television, for appropriate subclasses for television receiver circuitry and monitoring, testing, and measuring systems.

25 **ACCESS CONTROL OR BLOCKING:**

This subclass is indented under the class definition. Subject matter comprising means or steps for allowing or preventing access to a video program or service, or otherwise controlling access to a receiver device.

SEE OR SEARCH CLASS:

- 194, Check-Actuated Control Mechanisms, appropriate subclasses for coin-controlled device of general utility.
- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.
- 360, Dynamic Magnetic Information Storage or Retrieval, subclass 60 for preventing recording or erasing of an earlier recording on a record carrier.
- 379, Telephonic Communications, subclasses 143 through 155 for telephone paystation check operated control and subclasses 188-200 for call or terminal access alarm or control.
- 455, Telecommunications, subclass 26.1 for use or access blocking of a modulated carrier wave communication in general and subclass 411 for radiotelephones with privacy or lockout.

26 **By mechanical lock:**

This subclass is indented under subclass 25. Subject matter comprising means or steps for

- controlling or restricting access using a physical mechanism.
- 27 Of specific channel:**
This subclass is indented under subclass 25.
Subject matter comprising means or steps for controlling or restricting access to all programs or services transmitted within a recognized band of frequencies.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
28, for ratings-based access blocking.
- 28 Of specific program (e.g., based on program rating):**
This subclass is indented under subclass 25.
Subject matter comprising means or steps for controlling or restricting access to a particular programming event.
- (1) Note. This subclass includes subject matter directed toward preventing the presentation of programming deemed inappropriate for minors. The criteria for restricting access may be based on a ratings system, such as the MPAA rating system, or on an extended data service.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
27, for access blocking based on the character of programming provided by an entire channel.
- 29 Time dependent (e.g., time spent viewing program, time of day, etc.):**
This subclass is indented under subclass 25.
Subject matter comprising means or steps for controlling or restricting access as a function of a particular period of time or a duration of time.
- (1) Note. This subclass includes systems which limit receiver access to minors based on the time of day or a viewing allowance.
- 30 Access via PIN or password:**
This subclass is indented under subclass 25.
Subject matter comprising means or steps for controlling access by requiring the entry of an authorization code.
- (1) Note. This subclass includes systems in which entry of an authorization code is done through a user interface.
- 31 With encryption or scrambling of video signal:**
This subclass is indented under subclass 25.
Subject matter comprising means or steps for restricting access to a video signal by electrically masking or modifying the signal, so as to obliterate the signal's information, or otherwise by making the signal unintelligible.
- (1) Note. This subclass is provided for nominal recitation of video encryption or scrambling in a video distribution system. See the Search Class note below for specific detail of video scrambling technique.
- (2) Note. This subclass includes subject matter directed to preventing unauthorized access to video signals at all points in a distribution system.
- SEE OR SEARCH CLASS:
380, Cryptography, subclasses 200 through 242 for details of video cryptography technique.
- 32 PROGRAM, MESSAGE, OR COMMERCIAL INSERTION OR SUBSTITUTION:**
This subclass is indented under the class definition. Subject matter comprising means or steps for inserting or substituting a video program or other information beyond the control of a viewer.
- (1) Note. The other information could include audio or text message.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
86 through 104, for program distribution, delivery, or substitution made in accordance with a user request.

SEE OR SEARCH CLASS:

- 345, Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display Systems, particularly subclasses 716 through 726 for operator interfaces for video sequencing or editing.
- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.

33 Emergency warning:

This subclass is indented under subclass 32. Subject matter comprising means or steps for conveying emergency information relevant to a user.

- (1) Note. This subclass includes subject matter related to National Weather Service warnings and the like.

34 Specific to individual user or household:

This subclass is indented under subclass 32. Subject matter comprising means or steps for conveying user-specific data.

- (1) Note. This subclass includes subject matter directed toward the transmission of personal messages within an interactive video distribution system.

35 Based on demographics or geographical area:

This subclass is indented under subclass 32. Subject matter comprising means or steps for providing a program or other information to a statistically relevant or regionally appropriate group of viewers.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 33, for emergency warnings directed to a particular region.

36 Insertion of local commercial or local program at headend or network affiliate:

This subclass is indented under subclass 32. Subject matter comprising means or steps for the substitution of local video programming or advertisements at regional distribution points.

- (1) Note. This subclass includes subject matter directed to the details of local

commercial insertions in predefined program stream breaks.

37 OPERATOR INTERFACE:

This subclass is indented under the class definition. Subject matter comprising means or steps for a user's interaction with a receiver-side device to control the presentation of display data.

- (1) Note. Such interaction facilitates the display of data associated with distributed or delivered video programs or services.

SEE OR SEARCH CLASS:

- 345, Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display Systems, subclasses 581 through 618 for display attribute control features, subclasses 856-862 for cursor manipulation features, and particularly subclasses 716-726 for operator interface features and functions that are not particularly directed to interactive video distribution systems.
- 348, Television, for appropriate subclasses for television receivers and displays.
- 705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, subclasses 1 through 45 for use of operator interface in electronic financial or business management systems and particularly subclasses 26-29 for electronic shopping systems using an operator interface.

38 To facilitate tuning or selection of video signal:

This subclass is indented under subclass 37. Subject matter comprising means or steps for a user's interaction with a display interface to facilitate video program or channel selection.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 39, for electronic program guides having video program-specific information.
- 56, for channel guides having channel-specific information.
- 57, for "tune-by-label" display interfaces which allow channel selection by alphanumeric character set entry or selection.

- SEE OR SEARCH CLASS:
340, Communications: Electrical, subclass 825 for generic selective communications.
- 39 Electronic program guide:**
This subclass is indented under subclass 38.
Subject matter comprising means or steps for a user's interaction with a program grid having intersecting row(s) and column(s) of video program information.
- (1) Note. This subclass, and those subclasses under this subclass, includes electronic program guide display interfaces which typically provide a variety of information within the context of video program information, such as channel, time, and content information. Such interfaces often appear as electronic equivalents of traditional printed program guides.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
56, for channel guides having channel-specific information.
57, for "tune-by-label" display interfaces which allow channel selection by alphanumeric character set entry or selection.
- 40 For displaying additional information:**
This subclass is indented under subclass 39.
Subject matter comprising means or steps to display video program information other than a program's name, channel number, and time.
- SEE OR SEARCH CLASS:
348, Television, subclasses 563 through 568 for a basic television receiver having the display of additional information.
- 41 Video still or clip:**
This subclass is indented under subclass 40.
Subject matter comprising means or steps to display still image or motion video clip information.
- 42 Commercial or advertisement:**
This subclass is indented under subclass 40.
Subject matter comprising means or steps to display advertisement of commercial information.
- 43 With separate window, panel, or screen:**
This subclass is indented under subclass 40.
Subject matter comprising means or steps to display additional information within a separate portion of a display interface.
- 44 Content arrangement:**
This subclass is indented under subclass 39.
Subject matter comprising means or steps for video program information display arrangement and configuration.
- (1) Note. This subclass includes program guides which allow for the display of video program information in alternative arrangements or subsets in order to facilitate the dissemination of information or the selection of programs.
- 45 Based on genre, theme, or category:**
This subclass is indented under subclass 44.
Subject matter comprising means or steps describing particular configurations based on genre, a theme, or a category.
- (1) Note. This subclass includes video program information presented in such subsets as "sports", etc., as well as such subsets as "college basketball", etc.; that is, subsets of information or any logical division of information.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
46, for subsets of program information defined by the preferences of a user.
- 46 Based on personal preference, profile, or viewing history (e.g., to produce redacted listing):**
This subclass is indented under subclass 44.
Subject matter comprising means or steps for a particular configuration based on one's likes and dislikes, as defined by historical viewing data.
- (1) Note. This subclass includes video program information presented in subsets defined by the profile of an individual, as opposed to subsets defined exclusively

by the attributes of video program information.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

45, for subsets of program information defined by the attributes of the program information.

47 User customization of display content:
This subclass is indented under subclass 44.
Subject matter comprising means or steps user configuration of video program information.

(1) Note. This subclass is directed to subject matter describing user-friendly systems which enable users to arrange, add, or subtract display content to provide personalized display interfaces.

48 Combined from plural information providers (e.g., combined terrestrial and satellite sources):
This subclass is indented under subclass 39.
Subject matter comprising means or steps for integrating or displaying video program guide data from plural sources of such data.

(1) Note. This subclass includes systems which combine video program guide data at a server or headend, where such data is, for example, provided through diverse transmission networks.

49 Combined at local receiver:
This subclass is indented under subclass 48.
Subject matter comprising means or steps for integrating and displaying data at a receiver.

(1) Note. This subclass includes systems which combine video program guide data at a receiver, where such data is, for example, provided through diverse transmission networks.

50 Information updating:
This subclass is indented under subclass 39.
Subject matter comprising means or steps procedure by which video program guide data is refreshed or made current.

(1) Note. This subclass includes systems which periodically transmit blocks of data covering successive time frames to

provide up-to-date data for interaction therewith by users.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

54, for details of the transmission scheme.

51 Having link to external information resource (e.g., online resource):

This subclass is indented under subclass 39.
Subject matter comprising means or steps for a functional pointer which directs a user to an alternative data source which is external to the distribution network.

(1) Note. This subclass includes subject matter directed to the incorporation of a URL, an address for a resource on the Internet, into a video program guide to provide a link to further information not provided by the guide.

52 Navigational feature:
This subclass is indented under subclass 39.
Subject matter comprising means or steps for appearance or function of features which enable a user to browse the information provided by a video program guide.

(1) Note. This subclass includes such navigational features as cursor control, scrolling, links to further pages of information, etc.

53 Searching (e.g., by title or actor s name):
This subclass is indented under subclass 39.
Subject matter comprising means or steps for a comparative process by which specific video program guide data may be accessed.

(1) Note. This subclass includes systems which incorporate letter or keyword search capability and the like.

54 Transmission scheme:
This subclass is indented under subclass 39.
Subject matter comprising means or steps for particular form or mechanism of transmission of video program guide data which is provided to receivers.

(1) Note. This subclass is directed to such transmission features as data formats, whether data is transmitted in-band or

out-of-band, whether data is transmitted as blocks of data, encoded, encrypted, etc.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

50, for details of information updating.

SEE OR SEARCH CLASS:

370, Multiplex Communications, for appropriate subclasses.

709, Electrical Computers and Digital Processing Systems: Multiple Computer or Process Coordinating, subclasses 200 through 253 for multiple computer data transferring.

55 **Provided on recordable medium:**

This subclass is indented under subclass 39.

Subject matter comprising means or steps for the recording or reproducing of video program guide data.

- (1) Note. This subclass includes receivers which retrieve video program guide data from disk or tape drives or players.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.

369, Dynamic Information Storage or Retrieval, for appropriate subclasses.

386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

56 **Channel guide (i.e., channel-specific as opposed to program-specific guide):**

This subclass is indented under subclass 38.

Subject matter comprising means or steps for a user's interaction with a display interface having video channel information.

- (1) Note. This subclass includes channel guide display interfaces which facilitate channel selection, and which differ from electronic program guide display interfaces in that they lack program-specific information.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39, for electronic program guides having video program-specific information.

57, for "tune-by-label" display interfaces which allow channel selection alphanumeric character set entry or selection.

57 **Tune-by-label (i.e., channel selection by alphanumeric character entry):**

This subclass is indented under subclass 38.

Subject matter comprising means or steps for a user's interaction with a video display interface which is configured to allow channel selection by the entry or selection of an alphanumeric character set.

- (1) Note. This subclass includes systems which allow network or program provider selection by the entry or selection of a call sign, and thus without the knowledge of particular channel numbers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

39, for electronic program guides having video program-specific information.

56, for channel guides having channel-specific information.

58 **Program reserve or reminder system:**

This subclass is indented under subclass 38.

Subject matter comprising means or steps for a user's interaction with a display interface to arrange for the recording of future video programs or to arrange for a reminder of the airing of future video programs.

- (1) Note. This subclass includes systems which facilitate the unattended recording of plural video programs.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

133, 141, and 153, for receivers connected to diverse art devices, such as VCRs.

SEE OR SEARCH CLASS:

386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

59 Selecting from multiple inputs or sources:

This subclass is indented under subclass 38.

Subject matter comprising means or steps for providing information to a display interface from sources of video information connected through one or more transmission networks.

- (1) Note. This subclass includes program guide data or other display interface data which has been gathered from plural sources and combined at a headend for transmission to receiver devices. This subclass also includes systems which combine program guide data or other display interface data at receiver devices following transmission of such data through diverse networks, such as cable and satellite transmission networks.

60 Interactive product selection:

This subclass is indented under subclass 37.

Subject matter comprising means or steps for a user's interaction with a video display interface to arrange for the selection of a product.

- (1) Note. This subclass includes interactive video distribution systems which further provide product information via a display interface, typically through a hierarchical menu structure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 61, for systems concerned with the interactive selection of video programs.

SEE OR SEARCH CLASS:

- 705, Data Processing: Financial, Business Practice, Management, or Cost/Price Determination, subclass 26 and 27 for electronic shopping systems using an operator interface.

61 Interactive program selection:

This subclass is indented under subclass 37.

Subject matter comprising means or steps for a user's interaction with a display interface to arrange for the selection of a video program.

- (1) Note. This subclass includes systems which allow for the selection of video programs, such as pay-per-view or

video-on-demand programs, through a series of nested menus.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 60, for systems concerned with the interactive selection of products.
86 through 104, for subject matter detailing user-requested program systems, such as pay-per-view or video-on-demand systems.

62 CELLULAR VIDEO DISTRIBUTION SYSTEM:

This subclass is indented under the class definition. Subject matter comprising means or steps for the distribution or delivery of video programs through a system of limited-range transmitters serving individual sections of a geographical area, such that any available radio frequency channel can be used in different parts of the area simultaneously.

SEE OR SEARCH CLASS:

- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.
370, Multiplex Communications, subclass 312 for message broadcasting over free space and subclasses 328-350 for cellular communications using multiplexing techniques.
375, Pulse or Digital Communications, for appropriate subclasses.
455, Telecommunications, particularly subclasses 3.01 through 3.06 for general radio frequency signal distribution details and subclasses 403-466 for radio telephone systems.

63 SATELLITE VIDEO DISTRIBUTION SYSTEM:

This subclass is indented under the class definition. Subject matter comprising means or steps for the distribution or delivery of video programs through vehicles which orbit the earth and engage in the reception and transmission of communication signals.

SEE OR SEARCH CLASS:

- 343, Communications: Radio Wave Antennas, for appropriate subclasses for RF antennas.

- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.
- 370, Multiplex Communications, for appropriate subclasses.
- 375, Pulse or Digital Communications, for appropriate subclasses.
- 455, Telecommunications, particularly subclass 3.02 for general radio frequency signal satellite broadcast receivers and subclasses 12.1-13.4 for general radio frequency signal space satellite repeaters.
- 64 Two-way:**
This subclass is indented under subclass 63. Subject matter comprising means or steps for both the upstream and downstream transmission of communication signals.
- 65 Return path:**
This subclass is indented under subclass 64. Subject matter comprising means or steps for salient features of the upstream transmission path.
- 66 Terrestrial return path:**
This subclass is indented under subclass 65. Subject matter comprising means or steps for upstream communications via a terrestrial transmission network.
- 67 Transmitter:**
This subclass is indented under subclass 63. Subject matter comprising means or steps for details of the upstream, land-based source of communication signals in the satellite video distribution system.
- 68 Receiver:**
This subclass is indented under subclass 63. Subject matter comprising means or steps for details of the downstream, land-based termination for communication signals in the satellite video distribution system.
- 69 Polarization of signal:**
This subclass is indented under subclass 68. Subject matter comprising means or steps for a particular time-varying direction and amplitude of an electric field vector, specifically the elliptical figure traced, in a clockwise or counter-clockwise sense, as a function of time by the extremity of the vector at a fixed location in space, as observed along the direction of propagation.
- (1) Note. This subclass includes systems having circular, straight line, right-hand, left-hand, vertical, or horizontal polarization.
- 70 For digital signal:**
This subclass is indented under subclass 68. Subject matter comprising means or steps for transmission of digital communication signals.
- SEE OR SEARCH CLASS:
375, Pulse or Digital Communications, for appropriate subclasses.
- 71 For providing signals to plural subsequent receivers:**
This subclass is indented under subclass 68. Subject matter comprising means or steps for downstream reception of signals from a satellite and the subsequent retransmission of those signals to plural receiver devices.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
74 through 85, for details of local video distribution systems which retransmit communication signals for local distribution purposes.
- 72 Antenna initialization, calibration, or aiming:**
This subclass is indented under subclass 68. Subject matter comprising means or steps for the setup and operation of receiver antennas with respect to initialization, in which an antenna is configured for operation; calibration, in which an antenna's focus is finely tuned; and aiming, in which an antenna is focused or refocused.
- (1) Note. This subclass includes systems which employ a display interface to facilitate the initial configuration of newly acquired antennas, as well as systems having antennas which require constant refocusing, such as airborne antennas on airplanes.

73 TERRESTRIAL MICROWAVE VIDEO DISTRIBUTION SYSTEM:

This subclass is indented under the class definition. Subject matter comprising means or steps for the distribution or delivery of video programs, in which communication signals are transmitted in that portion of the radio frequency spectrum between 1 GHz and 30 GHz.

- (1) Note. This subclass includes systems which provide a so-called Multichannel Multipoint Distribution Service (MMDS).

SEE OR SEARCH CLASS:

- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.
370, Multiplex Communications, for appropriate subclasses.
375, Pulse or Digital Communications, for appropriate subclasses.
455, Telecommunications, for general radio frequency signal distribution.

74 LOCAL VIDEO DISTRIBUTION SYSTEM:

This subclass is indented under the class definition. Subject matter comprising means or steps for the distribution or delivery of video programs, through a short distance network or subnetwork.

- (1) Note. For example, local area video distribution network in a dwelling or a campus.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 63 through 72, for details of satellite video distribution.
86 through 153, for details of large-scale distribution and delivery systems.

SEE OR SEARCH CLASS:

- 340, Communications: Electrical, subclasses 825 through 825.98 for appropriate selective signaling systems.
348, Television, for appropriate subclasses directed to the details of television receiver circuitry.

- 379, Telephonic Communications, for appropriate subclasses directed to communications by telephone.

- 455, Telecommunications, for appropriate subclasses directed to nonvideo or generic communications.

75 Vehicle:

This subclass is indented under subclass 74. Subject matter comprising means or steps for distribution or delivery through a local network or subnetwork confined to a single vehicle or closely related group of vehicles (e.g., in a parking or a camp ground).

- (1) Note. This subclass includes systems which distribute or deliver video through automobiles.

76 Airplane:

This subclass is indented under subclass 75. Subject matter comprising means or steps for distribution or delivery in an airplane.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 86 through 104, for systems which provide user-requested video programs.

77 Seat-back terminal:

This subclass is indented under subclass 76. Subject matter comprising means or steps for passenger receiver terminals located on the backs of airplane seats.

78 Multiunit or multiroom structure (e.g., home, hospital, hotel, office building, school, etc.):

This subclass is indented under subclass 74. Subject matter comprising means or steps for distribution or delivery through a local network or subnetwork confined to a single building or closely related group of buildings.

79 Using existing power network:

This subclass is indented under subclass 78. Subject matter comprising means or steps for distribution or delivery via the existing power network of a structure.

80 Coordinating diverse devices:

This subclass is indented under subclass 78. Subject matter comprising means or steps for controlling the communication with, or com-

- munication between, diverse elements within the structure.
- (1) Note. This subclass includes systems which, in addition to distributing or delivering video programs, also coordinate communications between such diverse elements as telephones, video-cassette recorders, stereo components, lighting and alarm systems, kitchen appliances, etc.
- 81 Using wireless link:**
This subclass is indented under subclass 78. Subject matter comprising means or steps for communications within the distribution system that take place without the use of interconnecting wires or cables (e.g., radio, microwave, or infrared communications) .
- SEE OR SEARCH CLASS:
340, Communications: Electrical, sub-classes 825.72 through 825.76 for frequency-responsive actuation devices using wireless links.
455, Telecommunications, subclasses 3.01 through 3.06 for nonvideo wireless distribution systems.
- 82 Local server or headend:**
This subclass is indented under subclass 78. Subject matter comprising means or steps for a local, dedicated computer system or central system that distributes or delivers video programs.
- (1) Note. This subclass includes systems having servers or headends which communicate through a separate network(s) with another server(s), headend, information provider(s), telephone exchange, etc.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
91 through 97, 103, 114-117, 138, 144-147, for details of servers or headends used in large-scale distribution and delivery systems.
- 83 Having additional amenity (e.g., access to outside network, room service, etc.):**
This subclass is indented under subclass 78. Subject matter comprising means or steps for
- additional services for customers of lodging establishments provided through or initiated by way of a video distribution system.
- 84 Combined with call bell system for hospital use:**
This subclass is indented under subclass 83. Subject matter comprising means or steps for addition of an integrated call bell system for signaling hospital staff.
- SEE OR SEARCH CLASS:
340, Communications: Electrical, sub-classes 286.06 through 286.09 for call stations.
- 85 Receiver:**
This subclass is indented under subclass 78. Subject matter comprising means or steps for a terminating device in the system which connects a subscriber to a source of video programs.
- (1) Note. Such device enables the reception, and perhaps the transmission, of communication signals.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
100, 131-134, 139-142, or 151-153, for details of receivers used in large-scale distribution and delivery systems.
- 86 USER-REQUESTED VIDEO PROGRAM SYSTEM:**
This subclass is indented under the class definition. Subject matter comprising means or steps for the unidirectional distribution or delivery of video programs at the request of a user.
- (1) Note. Programming events are provided following an exchange in which a user interacts with a server or headend.
- (2) Note. This subclass includes systems in which system operators interface with transmitter-side elements, and users interface with receiver-side elements, in order to facilitate, through interaction with such elements, the dynamic control of data processing or data flow at various points in the systems.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 105 through 134, for details of general two-way distribution and delivery systems.
- 135 through 142, for details of one-way distribution systems in which there is local interaction with a receiver or with a data stream through a receiver.
- 143 through 153, for details of one-way distribution systems.

SEE OR SEARCH CLASS:

- 348, Television, for television receiver signal processing circuitry, video signal formatting, and bandwidth compression techniques.
- 370, Multiplex Communications, for multiplex communications systems.
- 375, Pulse or Digital Communications, for communication using pulse or digital signals.
- 455, Telecommunications, for appropriate subclasses directed to nonvideo communications.
- 709, Electrical Computers and Digital Processing Systems: Multiple Computer or Process Coordinating, particularly subclasses 217 through 219 for systems which provide remote data access using interconnected networks or by providing access to remote server.

87 **Video-on-demand:**

This subclass is indented under subclass 86. Subject matter comprising means or steps for providing individual programming events "on-demand", or with negligible delay to at least one user.

- (1) Note. This subclass includes systems which deliver programming upon request, as opposed to those which broadcast one or more programs and make possible the reception of such programs upon request.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 101 through 103, for near video-on-demand systems.
- 104, for pay-per-view systems.

88 **VCR-like function:**

This subclass is indented under subclass 87.

Subject matter comprising means or steps for control of programming events in the manner in which one typically controls the operation of a VCR, using control commands such as "pause", "fast-forward", "reverse", etc.

- (1) Note. This subclass includes systems which deliver programming consistent with a VCR-like control command following the transmission of the command to a server or headend.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 89, for systems in which VCR-like commands are executed locally, through the use of a receiver memory.
- 102, for VCR-like control in near video-on-demand systems.

89 **By use of memory at receiver:**

This subclass is indented under subclass 88.

Subject matter comprising means or steps for local execution of VCR-like commands through the use of a receiver memory.

- (1) Note. Typically, a first-in, first-out buffer memory is used to buffer incoming programming events in a manner which is sufficient to accommodate changes in the displayed data stream brought about by the control commands.

90 **With particular transmission scheme (e.g., transmitting I-frames only):**

This subclass is indented under subclass 88.

Subject matter comprising means or steps for a conspicuous technique for transmitting the video programming data to accommodate VCR-like functionality.

- (1) Note. One technique in digital transmission systems, when simulating "fast-forward" or "reverse" functions, is to transmit only MPEG-encoded I-frame data.

SEE OR SEARCH CLASS:

- 348, Television, subclasses 384.1 through 440.1 for analog video signal bandwidth compression and subclasses

- 441-496 for video signal formatting techniques.
- 375, Pulse or Digital Communications, subclasses 240.01 through 240.29 for digital video signal bandwidth compression techniques.

91 **Server or headend:**

This subclass is indented under subclass 87.
Subject matter comprising means or steps for a central system that distributes video programs.

- (1) Note. The central system is the logical root of the distribution and delivery system.
- (2) Note. This subclass includes subject matter directed to servers or headends in broadband coaxial cable systems having two-way communications.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 103, for details of servers or headends used in near video-on-demand systems.
- 114 through 117, for details of servers or headends used in general two-way distribution and delivery systems.
- 138, and 144-147, for details of headends used in one-way distribution systems.

SEE OR SEARCH CLASS:

- 332, Modulators, various subclasses for modulators, per se.
- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

92 **Mass storage:**

This subclass is indented under subclass 91.
Subject matter comprising means or steps for transfer of data to or retrieval of data from mass storage located at a server or headend.

- (1) Note. This subclass includes systems which strip data retrieved from mass storage onto an array of disk storage devices to facilitate subsequent on-

demand data retrieval, buffering, switching, and transmission.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 94, for details of the buffering and switching of data, following the retrieval of data from mass storage, in servers or headends used in user-requested video program systems.
- 115, for details of data storage and retrieval in servers or headends used in general two-way distribution and delivery systems.
- 145, for details of data storage and retrieval in headends used in one-way distribution systems.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

93 **Control process:**

This subclass is indented under subclass 91.
Subject matter comprising means or steps for control of server or headend system operations, particularly data processing and data flow.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 116, for details of the control processes of servers or headends used in general two-way distribution and delivery systems.
- 146, for details of the control processes of headends used in one-way distribution systems.

94 **Buffering and switching:**

This subclass is indented under subclass 93.
Subject matter comprising means or steps for buffering and switching of data in a server or headend to facilitate transmission over a network.

- (1) Note. This subclass includes systems which use first-in, first-out buffers and

ATM switches to facilitate transmission over a network.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 92, for details of data mass storage prior to the buffering and switching which is required for transmission on demand.
- 115, for details of data storage and retrieval in servers or headends used in general two-way distribution and delivery systems.
- 145, for details of data storage and retrieval in headends used in one-way distribution systems.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 370, Multiplex Communications, subclasses 351 through 430 for buffering and switching in multiplex communication networks.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.
- 709, Electrical Computers and Digital Processing Systems: Multiple Computer or Process Coordinating, appropriate subclasses for buffering and switching in multiple computer data transferring.

95 **Channel or bandwidth allocation:**

This subclass is indented under subclass 93. Subject matter comprising means or steps for control of channel or frequency range assignment.

SEE OR SEARCH CLASS:

- 370, Multiplex Communications, subclass 468 for assignment of variable bandwidth or time period for transmission or reception in multiplex communications.

96 **In accordance with server or network congestion:**

This subclass is indented under subclass 95. Subject matter comprising means or steps for

channel or bandwidth allocation based on server or network loads.

- (1) Note. This subclass includes subject matter directed to overcoming congestion within servers due to demands on data access, etc., as well as congestion within networks due to bandwidth constraints.

SEE OR SEARCH CLASS:

- 370, Multiplex Communications, subclasses 229 through 240 for data flow congestion prevention or flow in multiplex communications systems.

97 **Scheduling (e.g., grouping users together):**

This subclass is indented under subclass 93.

Subject matter comprising means or steps for assignment or designation of data retrieval and data transmission as it relates to one or more users or one or more programming events.

- (1) Note. This subclass includes techniques for grouping events or users together, as well as nonstandard techniques for data retrieval and transmission.

SEE OR SEARCH CLASS:

- 370, Multiplex Communications, subclasses 431 through 462 for channel assignment techniques in multiplex communications.

98 **Transmission network:**

This subclass is indented under subclass 87.

Subject matter comprising means or steps for arrangement, composition, or use of the components or nodes and interconnecting branches which facilitate communications between the server or headend and receivers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 118 through 130, for details of transmission networks used in general two-way distribution and delivery systems.
- 148, for details of transmission networks in one-way distribution systems.

SEE OR SEARCH CLASS:

- 330, Amplifiers, various subclasses for amplifiers, per se.

- 333, Wave Transmission Lines and Networks, various subclasses for plural channel systems and coupling networks.
- 99 Using telephone network:**
This subclass is indented under subclass 98.
Subject matter comprising means or steps for communications via a public switched telephone network.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
106, for telephony via general two-way distribution and delivery systems.
122, for upstream communications in general two-way distribution and delivery systems using a telephone network.
- SEE OR SEARCH CLASS:
379, Telephonic Communications, for details of public switched telephone networks.
- 100 Receiver (e.g., set-top box):**
This subclass is indented under subclass 87.
Subject matter comprising means or steps for a terminating device in the system which connects a subscriber to a source of video programs.
- (1) Note. Such device enables the transmission and reception of communication signals.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
131 through 134, for details of receivers used in general two-way distribution and delivery systems.
139 through 142 and 151-153, for details of receivers used in one-way distribution systems.
- SEE OR SEARCH CLASS:
329, Demodulators, for appropriate subclasses.
331, Oscillators, various subclasses for oscillators, per se.
334, Tuners, various subclasses for tuners, per se.
348, Television, for appropriate subclasses directed to the details of television receiver circuitry.
- 101 Near video-on-demand system (i.e., providing plural, time-staggered versions of same program):**
This subclass is indented under subclass 86.
Subject matter comprising means or steps for providing a programming event upon request, in which the event is broadcast on plural channels in time-staggered intervals.
- (1) Note. This subclass includes systems which distribute programming to all subscribers, but enable the reception of a given event channel on an individual basis through an interactive process. Due to the mode of distribution, requests can be processed "near on-demand", with a delay which is inversely proportional to the broadcast interval.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
87 through 100, for video-on-demand systems.
104, for pay-per-view systems.
- 102 VCR-like function:**
This subclass is indented under subclass 101.
Subject matter comprising means or steps for control of programming events in the manner in which one typically controls the operation of a VCR, using control commands such as "pause", "fast-forward", "reverse", etc.
- (1) Note. This subclass includes systems which execute some VCR-like functions by switching channels and thus providing access to alternative time frames of the same event.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
88 through 90, for VCR-like control in video-on-demand systems.
- 103 Server or headend:**
This subclass is indented under subclass 101.
Subject matter comprising means or steps for a central system that distributes video programs.
- (1) Note. The central system is the logical root of the distribution and delivery system.

- (2) Note. This subclass includes subject matter directed to servers or headends in broadband coaxial cable systems having two-way communications.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 91 through 97, for details of servers or headends used in video-on-demand systems.
 114 through 117, for details of servers or headends used in general two-way distribution and delivery systems.
 138, and 144-147, for details of headends used in one-way distribution systems.

SEE OR SEARCH CLASS:

- 332, Modulators, various subclasses for modulators, per se.
 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

104 Pay-per-view:

This subclass is indented under subclass 86. Subject matter comprising means or steps for providing a programming event upon request, in which the event is broadcast on a particular channel at a particular time.

- (1) Note. This subclass includes systems which distribute programming to all subscribers, but enable the reception of a given event on an individual basis through an interactive process.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 87 through 100, for video-on-demand systems.
 101 through 103, for near video-on-demand systems.

105 VIDEO DISTRIBUTION SYSTEM WITH UPSTREAM COMMUNICATION:

This subclass is indented under the class definition. Subject matter comprising means or steps for the unidirectional distribution of

video programs with either the upstream or bidirectional transmission of further diverse data communications or services in a network.

- (1) Note. This subclass includes systems in which system operators interface with transmitter-side elements, and users interface with receiver-side elements, in order to facilitate, through interaction with such elements, the dynamic control of data processing or data flow at various points in the systems.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 86 through 104, for details of two-way user-requested video program systems.
 135 through 142, for details of one-way distribution systems in which there is local interaction with a receiver or with a data stream through a receiver.
 143 through 153, for details of one-way distribution systems.

SEE OR SEARCH CLASS:

- 348, Television, for television receiver signal processing circuitry, video signal formatting, and bandwidth compression techniques.
 370, Multiplex Communications, for multiplex communications systems.
 375, Pulse or Digital Communications, for communication using pulse or digital signals.
 455, Telecommunications, for appropriate subclasses directed to nonvideo communications.

106 Telephony via television distribution network:

This subclass is indented under subclass 105. Subject matter comprising means or steps for bidirectional communication of audio signals in a normally duplex arrangement through a television distribution network.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 99, for video-on-demand systems which transmit data using a telephone network.

- 122, for upstream communications in general two-way distribution and delivery systems using a telephone network.
- SEE OR SEARCH CLASS:
379, Telephonic Communications, for details of public switched telephone networks.
- 107 Remote testing of cable system:**
This subclass is indented under subclass 105. Subject matter comprising means or steps for centralized testing functions associated with the performance of a cable system.
- SEE OR SEARCH CLASS:
348, Television, subclass 192 and 193 for details of transmission path testing in television distribution systems.
- 108 Alarm system using television network:**
This subclass is indented under subclass 105. Subject matter comprising means or steps for an alarm system which uses a video distribution system for data communications.
- 109 Having link to external network (e.g., interconnected computer network):**
This subclass is indented under subclass 105. Subject matter comprising means or steps for a connection to a network external to the video distribution network, which connection allows communication and data exchange with the external network.
- 110 Connection to external network at receiver (e.g., set-top box):**
This subclass is indented under subclass 109. Subject matter comprising means or steps for a connection at a receiver.
- (1) Note. This subclass includes systems having receivers connected to telephone networks, data networks, etc.
- 111 Cable modem:**
This subclass is indented under subclass 109. Subject matter comprising means or steps for a high bandwidth modem operating across a cable television network.
- (1) Note. This subclass includes receivers having modems in communication with the Internet.
- SEE OR SEARCH CLASS:
370, Multiplex Communications, subclass 463 for details of circuit interfaces for connecting user to a network.
- 112 Link transmission (e.g., URL sent to user):**
This subclass is indented under subclass 109. Subject matter comprising means or steps for transmission of a functional pointer which directs a user to an alternative data source which is external to the distribution network.
- (1) Note. This subclass includes subject matter directed to the transmission of a URL, an address for a resource on the Internet.
- 113 Conveyed in video image:**
This subclass is indented under subclass 112. Subject matter comprising means or steps for link transmission within a video image.
- (1) Note. This subclass includes subject matter directed to the transmission of a URL, an address for a resource on the Internet, which is integrated into a video image, and which functions as an active link.
- 114 Server or headend:**
This subclass is indented under subclass 105. Subject matter comprising means or steps for a central system that distributes video programs. The central system is the logical root of the distribution and delivery system.
- (1) Note. This subclass includes subject matter directed to servers or headends in broadband coaxial cable systems having two-way communications.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
91 through 97 and 103, for details of servers or headends used in two-way user-requested video program systems.
138, and 144-147, for details of headends used in one-way distribution systems.
- SEE OR SEARCH CLASS:
332, Modulators, various subclasses for modulators, per se.

- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.
- 115 Data storage or retrieval:**
This subclass is indented under subclass 114. Subject matter comprising means or steps for the transfer of data to storage or the retrieval of data from storage located at a server or headend.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 92, for details of mass storage in servers or headends used in two-way user-requested video program systems.
- 94, for details of buffering and switching in servers or headends used in user-requested video program systems.
- 145, for details of data storage and retrieval in headends used in one-way distribution systems.
- SEE OR SEARCH CLASS:
- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.
- 116 Control process:**
This subclass is indented under subclass 114. Subject matter comprising means or steps for the control of server or headend system operations, particularly data processing and data flow.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 93 through 97, for details of the control processes of servers or headends used in two-way user-requested video program systems.
- 146, for details of the control processes of headends used in one-way distribution systems.
- 117 Communications interface:**
This subclass is indented under subclass 114. Subject matter comprising means or steps for a connection at the server or headend which interfaces communications between the server or headend and the transmission network.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 148, for details of the communication interfaces of headends used in one-way distribution systems.
- 118 Transmission network:**
This subclass is indented under subclass 105. Subject matter comprising means or steps for arrangement, composition, or use of the components or nodes and interconnecting branches which facilitate communications between the server or headend and receivers.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 98, and 99, for details of transmission networks used in two-way user-requested video program systems.
- 148, for details of transmission networks in one-way distribution systems.
- SEE OR SEARCH CLASS:
- 330, Amplifiers, various subclasses for amplifiers, per se.
- 333, Wave Transmission Lines and Networks, various subclasses for plural channel systems and coupling networks.
- 119 Having significant intermediate network unit (e.g., hub, substation, etc.):**
This subclass is indented under subclass 118. Subject matter comprising means or steps for a device, intermediate to a server or headend and receiver devices, which is in communication with and which provides services to either the headend or server or the receiver devices.
- (1) Note. This subclass is directed to intermediate network units which provide significant data processing, and thus differ from less significant passive or active network components which merely split or combine signal power or amplify or filter signals.

- (2) Note. This subclass includes subject matter directed to wireless local loop systems in which there are significant video features.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 127, for less significant network components used in two-way distribution and delivery systems.
 149, for less significant network components used in one-way distribution systems.
- 120 With two-way connection from unit to receiver (e.g., for the purpose of channel selection):**
 This subclass is indented under subclass 119. Subject matter comprising means or steps for two-way communications within the transmission network occurring solely between the intermediate network unit and a receiver(s).
- (1) Note. This subclass includes systems having tuning functions provided outside the home or tuning or program selection functions for plural receivers consolidated in a single, external device.
- 121 Return path:**
 This subclass is indented under subclass 118. Subject matter comprising means or steps for salient features of the upstream communication pathway.
- (1) Note. "Backchannel" , "return channel/path" , "reverse channel/path" , and "upstream channel/path" are synonymous.
- 122 Return path via telephone network:**
 This subclass is indented under subclass 121. Subject matter comprising means or steps for upstream communications via a public switched telephone network.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 99, for video-on-demand systems which transmit data using a telephone network.
 106, for telephony via general two-way distribution and delivery systems.
- SEE OR SEARCH CLASS:
 379, Telephonic Communications, for details of public switched telephone networks.
- 123 Wireless return path:**
 This subclass is indented under subclass 121. Subject matter comprising means or steps for upstream communications without the use of interconnecting wires or cables.
- (1) Note. This subclass includes communication via radio, microwave, or infrared.
- SEE OR SEARCH CLASS:
 359, Optics: Systems (Including Communication) and Elements, subclasses 109 through 195 for generic optical communication system.
 455, Telecommunications, for general radio frequency signal transmission systems.
- 124 Noise in return path:**
 This subclass is indented under subclass 121. Subject matter comprising means or steps for unwanted signals in the useful frequency bands of the communications system.
- (1) Note. This subclass includes subject matter related to noise produced by other communications services.
- 125 Ingress noise:**
 This subclass is indented under subclass 124. Subject matter comprising means or steps for the entry of unwanted signals in transmission network in frequencies which would otherwise remain free of signal energy.
- (1) Note. This subclass includes subject matter directed to the noise problems associated with making useful previously unused frequency bands for upstream communications.
- 126 Detail of use of two-way spectrum:**
 This subclass is indented under subclass 118. Subject matter comprising means or steps for explicit uses for the frequency spectrum covered by a given transmission network.

- (1) Note. This subclass includes subject matter detailing frequency bands for downstream and upstream communications, as well as bands for other services, such as telephony.
- 127 Network component (e.g., filter, tap, splitter, amplifier, repeater, etc.):**
This subclass is indented under subclass 118. Subject matter comprising means or steps for a constituent part of the transmission network.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
119, and 120, for more significant network components used in two-way distribution and delivery systems, such as hubs and substations.
149, for details of network components used in one-way distribution systems.
- SEE OR SEARCH CLASS:
370, Multiplex Communications, subclasses 315 through 327 for repeaters, and particularly subclass 327 for repeaters in a trunking system.
375, Pulse or Digital Communications, subclasses 211 through 215 for repeaters.
455, Telecommunications, subclasses 7 through 25 for carrier wave repeater or relay systems.
- 128 Diplex filter:**
This subclass is indented under subclass 127. Subject matter comprising means or steps for use of a diplex filter.
- SEE OR SEARCH CLASS:
370, Multiplex Communications, subclasses 276 through 296 for duplex communications.
- 129 Hybrid fiber-coax network:**
This subclass is indented under subclass 118. Subject matter comprising means or steps for a transmission network having connecting branches which are a hybrid of both optical fiber cable and coaxial cable.
- (1) Note. This subclass includes broadband cable systems which use optical fiber cable from the headend (as, for example, trunk cables), and use coaxial cable thereafter (as, for example, branch cables).
- 130 Power signal over network:**
This subclass is indented under subclass 118. Subject matter comprising means or steps for providing an electric power signal over the transmission network to energize downstream elements.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
150, for power signals provided over one-way distribution systems.
- 131 Receiver (e.g., set-top box):**
This subclass is indented under subclass 105. Subject matter comprising a terminating device which connects a subscriber to a source of video programs.
- (1) Note. Such device enables the transmission and reception of communication signals.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
100, for details of receivers used in two-way user-requested video program systems.
139 through 142 and 151-153, for details of receivers used in one-way distribution systems.
- SEE OR SEARCH CLASS:
329, Demodulators, for appropriate subclasses.
331, Oscillators, various subclasses for oscillators, per se.
334, Tuners, various subclasses for tuners, per se.
348, Television, for appropriate subclasses directed to the details of television receiver circuitry.
- 132 Programmable or upgradeable:**
This subclass is indented under subclass 131. Subject matter comprising means or steps for hardware or software enhancements to receiver devices.
- (1) Note. This subclass includes subject matter directed to extending the useful-

ness of receivers or expanding their functionality through updates or modifications.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

140, and 152, for programmable or upgradeable receiver features found in one-way distribution systems.

133 With diverse device (e.g., personal computer, game player, VCR, etc.):

This subclass is indented under subclass 131.

Subject matter comprising means or steps for receiver devices in combination with (or in communication with) diverse art devices.

- (1) Note. This subclass includes systems having receivers in communication with personal computers, game players, VCRs, etc., for the transmission of data or control signals in either direction. For example, a receiver might function to control a VCR to initiate the predetermined recording of a program.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

141, and 153, for receivers in communication with diverse devices found in one-way distribution systems.

SEE OR SEARCH CLASS:

386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses for video-cassette recorders.

463, Amusement Devices: Games, for video game players.

134 Having particular storage feature:

This subclass is indented under subclass 131.

Subject matter comprising means or steps for receiver devices having specific data storage characteristics.

- (1) Note. This subclass has subject matter directed to particular types of storage, such as mass storage and cache memory; particular features of storage, such as directories and tables; or particular storage processes, such as memory access.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

142, for receivers having particular storage features in one-way distribution systems.

SEE OR SEARCH CLASS:

360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.

369, Dynamic Information Storage or Retrieval, for appropriate subclasses.

386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

135 VIDEO DISTRIBUTION SYSTEM WITH LOCAL INTERACTION:

This subclass is indented under the class definition. Subject matter comprising means or steps for the unidirectional distribution of video programs through a network, in which there is local interaction with a receiver, or with a data stream through a receiver.

- (1) Note. This subclass includes systems in which system operators interface with transmitter-side elements, and users interface with receiver-side elements, in order to facilitate, through interaction with such elements, the dynamic control of data processing or data flow at various points in the systems.

- (2) Note. Systems under this subclass include those which cyclically and repeatedly transmit data streams of relevant video data and other service data as small units or blocks. At the receiver-side, users interact with these data streams in a manner indicative of two-way interactive systems. However, given that there are no upstream communications from the receiver-side, these systems are often referred to as "simulated" two-way or bidirectional communications systems.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

37 through 61, for details of operator interfaces, in which local interaction

- occurs through a graphical user interface.
- 86 through 134 , for details of two-way distribution and delivery systems.
- 143 through 153 , for details of one-way distribution systems.
- SEE OR SEARCH CLASS:**
- 345, Computer Graphics Processing, Operator Interface Processing, and Selective Visual Display Systems, for appropriate subclasses for user interface features.
- 348, Television, for television receiver signal processing circuitry, video signal formatting, and bandwidth compression techniques.
- 370, Multiplex Communications, for multiplex communications systems.
- 375, Pulse or Digital Communications, for communication using pulse or digital signals.
- 455, Telecommunications, for appropriate subclasses directed to nonvideo communications.
- 136 Interactive data transmitted in video signal band (e.g., VBI or HBI data):**
This subclass is indented under subclass 135. Subject matter comprising means or steps for interactive data or applications which are transmitted within the range of frequencies used for the transmission of a video signal.
- (1) Note. This subclass includes systems which transmit data within the video signal band but otherwise separate from video signals themselves, as well as systems which encode data within any useful portion of video signals.
- SEE OR SEARCH CLASS:**
- 348, Television, subclasses 461 through 468 for noninteractive, nonpictorial data packets broadcast within the television format.
- 137 Teletext:**
This subclass is indented under subclass 136. Subject matter comprising means or steps for coding, extracting, processing, and displaying coded character information.
- (1) Note. This subclass includes systems which receive and display either textual or pictorial material coded and distributed with video data. The material is often distributed as “pages” of data which may be indexed or accessible in a hierarchical manner through user interaction.
- 138 Headend:**
This subclass is indented under subclass 135. Subject matter comprising means or steps for a central system that distributes video programs.
- (1) Note. The central system is the logical root of the distribution system.
- (2) Note. This subclass includes subject matter directed to headends in broadband coaxial cable systems having one-way (downstream) communications.
- SEE OR SEARCH THIS CLASS, SUBCLASS:**
- 91 through 97 , 103, and 114-117, for details of headends (or servers) used in two-way distribution and delivery systems.
- 144 through 147 , for details of headends used in one-way distribution systems.
- SEE OR SEARCH CLASS:**
- 332, Modulators, various subclasses for modulators, per se.
- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.
- 139 Receiver (e.g., set-top box):**
This subclass is indented under subclass 135. Subject matter comprising a terminating device which connects a subscriber to a source of video programs.
- (1) Note. The device enables the reception of communication signals.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 100, and 131-134, for details of receivers used in two-way distribution and delivery systems.
- 151 through 153, for details of receivers used in one-way distribution systems.

SEE OR SEARCH CLASS:

- 329, Demodulators, for appropriate subclasses.
- 331, Oscillators, various subclasses for oscillators, per se.
- 334, Tuners, various subclasses for tuners, per se.
- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.

140 **Programmable or upgradeable:**

This subclass is indented under subclass 139. Subject matter comprising means or steps for hardware or software enhancements to receiver devices.

- (1) Note. This subclass includes subject matter directed to extending the usefulness of receivers or expanding their functionality through updates or modifications.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 132, for programmable or upgradeable receiver features found in two-way distribution and delivery systems.
- 152, for programmable or upgradeable receiver features found in one-way distribution systems.

141 **With diverse device (e.g., personal computer, game player, VCR, etc.):**

This subclass is indented under subclass 139. Subject matter comprising means or steps for receiver devices in combination with (or in communication with) diverse art devices.

- (1) Note. This subclass includes systems having receivers in communication with personal computers, game players, VCRs, etc., for the transmission of data or control signals in either direction. For example, a receiver might function to

control a VCR to initiate the predetermined recording of a program.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 133, for receivers in communication with diverse devices found in two-way distribution and delivery systems.
- 153, for receivers in communication with diverse devices found in one-way distribution systems.

SEE OR SEARCH CLASS:

- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses for video-cassette recorders.
- 463, Amusement Devices: Games, for video game players.

142 **Having particular storage feature:**

This subclass is indented under subclass 139. Subject matter comprising means or steps for receiver devices having specific data storage characteristics.

- (1) Note. This subclass has subject matter directed to particular types of storage, such as mass storage and cache memory; particular features of storage, such as directories and tables; or particular storage processes, such as memory access.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 134, for receivers having particular storage features in two-way distribution and delivery systems.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
- 369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
- 386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

143 VIDEO DISTRIBUTION SYSTEM COMPONENTS:

This subclass is indented under the class definition. Subject matter comprising means or steps for the unidirectional distribution of video programs, through a network.

- (1) Note. This subclass includes systems in which system operators interface with transmitter-side elements in order to facilitate, through interaction with such elements, the dynamic control of data processing or data flow at various points in the systems.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 86 through 134, for details of two-way distribution and delivery systems.
135 through 142, for details of one-way distribution systems in which there is local interaction with a receiver or with a data stream through a receiver.

SEE OR SEARCH CLASS:

- 348, Television, for television receiver signal processing circuitry, video signal formatting, and bandwidth compression techniques.
370, Multiplex Communications, for multiplex communications systems.
375, Pulse or Digital Communications, for communication using pulse or digital signals.
455, Telecommunications, for appropriate subclasses directed to nonvideo communications.

144 Headend:

This subclass is indented under subclass 143. Subject matter comprising means or steps for a central system that distributes video programs.

- (1) Note. The central system is the logical root of the distribution system.
(2) Note. This subclass includes subject matter directed to headends in broadband coaxial cable systems having one-way (downstream) communications.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 91 through 97, 103, and 114-117, for details of headends (or servers) used in two-way distribution and delivery systems.
138, for details of headends used in one-way distribution systems in which there is local interaction with a receiver or with a data stream through a receiver.

SEE OR SEARCH CLASS:

- 332, Modulators, various subclasses for modulators, per se.

145 Data storage or retrieval:

This subclass is indented under subclass 144. Subject matter comprising means or steps for the transfer of data to storage or the retrieval of data from storage located at a headend.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 92, for details of mass storage in servers or headends used in user-requested delivery systems.
94, for details of buffering and switching in servers or headends used in user-requested delivery systems.
115, for data storage or retrieval features in servers or headends used in two-way distribution and delivery systems.

SEE OR SEARCH CLASS:

- 360, Dynamic Magnetic Information Storage or Retrieval, for appropriate subclasses.
369, Dynamic Information Storage or Retrieval, for appropriate subclasses.
386, Television Signal Processing for Dynamic Recording or Reproducing, for appropriate subclasses.

146 Control process:

This subclass is indented under subclass 144. Subject matter comprising means or steps for the control of headend system operations, particularly data processing and data flow.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

93 through 97 and 116, for details of the control processes of headends (or servers) used in two-way distribution and delivery systems.

147 Communications interface:

This subclass is indented under subclass 144. Subject matter comprising means or steps for a connection at the headend which interfaces communications between the headend and the transmission network.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

117, for details of the communication interfaces of headends (or servers) used in two-way distribution and delivery systems.

148 Transmission network:

This subclass is indented under subclass 143. Subject matter comprising means or steps for arrangement, composition, or use of the components or nodes and interconnecting branches which facilitate communications between the headend and receivers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

98, 99, and 118-130, for details of transmission networks used in two-way distribution and delivery systems.

SEE OR SEARCH CLASS:

330, Amplifiers, various subclasses for amplifiers, per se.

333, Wave Transmission Lines and Networks, various subclasses for plural channel systems and coupling networks.

149 Network component (e.g., filter, tap, splitter, amplifier, repeater, etc.):

This subclass is indented under subclass 148. Subject matter comprising means or steps for a constituent part of the transmission network.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

119, and 120, for more significant network components used in two-way distribu-

tion and delivery systems, such as hubs and substations.

127, and 128, for details of network components used in two-way distribution and delivery systems.

SEE OR SEARCH CLASS:

333, Wave Transmission Lines and Networks, subclasses 165 through 212 for frequency domain, time domain, and wave and electromechanical filters.

370, Multiplex Communications, subclasses 315 through 327 for repeaters in multiplex communication over free space; and subclasses 492, 501, and 502 for repeaters in frequency division and time division multiplex, respectively.

375, Pulse or Digital Communications, subclasses 211 through 215 for repeaters in digital communication systems.

455, Telecommunications, subclasses 7 through 25 for carrier wave repeater or relay systems.

150 Power signal over network:

This subclass is indented under subclass 148. Subject matter comprising means or steps for providing an electric power signal over the transmission network to energize downstream elements.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

130, for power signals provided over two-way distribution and delivery systems.

151 Receiver (e.g., set-top box):

This subclass is indented under subclass 143. Subject matter comprising means or steps for a terminating device in the system which connects a subscriber to a source of video programs.

(1) Note. The device enables the reception of communication signals.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 100, and 131-134, for details of receivers used in two-way distribution and delivery systems.
- 139 through 142, for details of receivers used in one-way distribution systems in which there is local interaction with the receiver or with a data stream through the receiver.

SEE OR SEARCH CLASS:

- 329, Demodulators, for appropriate subclasses.
- 331, Oscillators, various subclasses for oscillators, per se.
- 334, Tuners, various subclasses for tuners, per se.
- 348, Television, for appropriate subclasses directed to the details of television receiver circuitry.

152 **Programmable or upgradeable:**

This subclass is indented under subclass 151. Subject matter comprising means or steps for hardware or software enhancements to receiver devices.

- (1) Note. This subclass includes subject matter directed to extending the usefulness of receivers or expanding their functionality through updates or modifications.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 132, for programmable or upgradeable receiver features found in two-way distribution and delivery systems.
- 140, for programmable or upgradeable receiver features found in one-way distribution systems in which there is local interaction with the receiver or with a data stream through the receiver.

153 **With diverse device (e.g., personal computer, game player, VCR, etc.):**

This subclass is indented under subclass 151. Subject matter comprising means or steps for receiver devices in combination with (or in communication with) diverse art devices.

- (1) Note. This subclass includes systems having receivers in communication with personal computers, game players, VCRs, etc., for the transmission of data or control signals in either direction. For example, a receiver might function to control a VCR to initiate the predetermined recording of a program.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 133, for receivers in communication with diverse devices found in two-way distribution and delivery systems.
- 141, for receivers in communication with diverse devices found in one-way distribution systems in which there is local interaction with the receiver or with a data stream through the receiver.

SEE OR SEARCH CLASS:

- 386, Television Signal Processing for Dynamic Recording or Reproducing, appropriate subclasses for videocassette recorders.
- 463, Amusement Devices: Games, for video game players.

END